

CLAIMS

1. Anti-buckling device (1) for thin-walled fluid ducts (6), characterised in that
 - in its longitudinal direction it has several ribs (2) whereby the space between two adjacent ribs (2) forms a groove (3),
 - the cross-section of the anti-buckling device (1) fills the cross-section of a duct in such a way that the duct walls (9) lie on the ribs (2) at a buckling point (8) but cannot penetrate into the grooves (2),
 - the grooves (3) remain open and permeable for fluids when the anti-buckling device (1) is bent,
 - fluids can circulate through the grooves (3) of the anti-buckling device (1) and, if necessary, transmit pressure forces.
2. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1, characterised in that in their longitudinal direction the ribs (2) are interrupted and thereby the grooves (3) are connected to each other by way of transverse connections (10).
3. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 2, characterised in that the interrupted ribs (2) are formed as knobs (11) and the grooves (3) with the transverse connections (10) form an intermediate space (12).
4. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1, characterised in that it is

formed in such a way that at least one plastic pipe (13) can be inserted in it.

5. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 4, characterised in that the at least one plastic pipe (13) is reinforced.
6. Anti-buckling device (1) for thin-walled fluid ducts (6) according to any one of claims 1 to 5, characterised in that the envelope (4) essentially corresponds to the cross-section of the duct (6) and the buckling point.
7. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 6, characterised in that the envelope (4) is lenticular.
8. Anti-buckling device (1) for thin-walled fluid ducts (6) according to any one of claims 1 to 5, characterised in that the envelope (4) essentially corresponds to the cross-section of the duct (6) along the entire length of the anti-buckling device (1).
9. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 8, characterised in that the envelope (4) is lenticular in the middle of the anti-buckling device and becomes continuously more circular in both directions.
10. Anti-buckling device (1) for thin-walled fluid ducts (6) according to any one of claims 1 to 5, characterised in that its cross-section and the envelope (4) exhibit multiple rotational symmetry.

11. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1, characterised in that the thin-walled duct (6) is a hose (14) and the anti-buckling device (1) is deformable and can adjust itself to deformations in the cross-section of the hose.
12. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1, characterised in that the thin-walled duct (6) is a core (15) worked into a woven material and the anti-buckling device (1) is deformable can adjust itself to changes in the cross-section of the core (15) induced by a pressure p .
13. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1, characterised in that it consists of an elastic material.
14. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1, characterised in that it consists of an elastomer.
15. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 13 or 14, characterised in that the elastic material has a hardness of between 20 and 80 Shore.
16. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 15, characterised in that the elastic material has a hardness of between 20 and 60 Shore.

17. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 1 or 2, characterised in that the ribs (2) are applied to the inside of a duct wall 9.
18. Anti-buckling device (1) for thin-walled fluid ducts (6) according to claim 3, characterised in that the knobs (11) are applied to the inside of a duct wall 9.